جامعة حضرموت

كلية الهندسة والبترول

COLLEGE OF ENGINEERING & PETROLEUM

HADHRAMOUT UNIVERSITY



I am Omar Selim

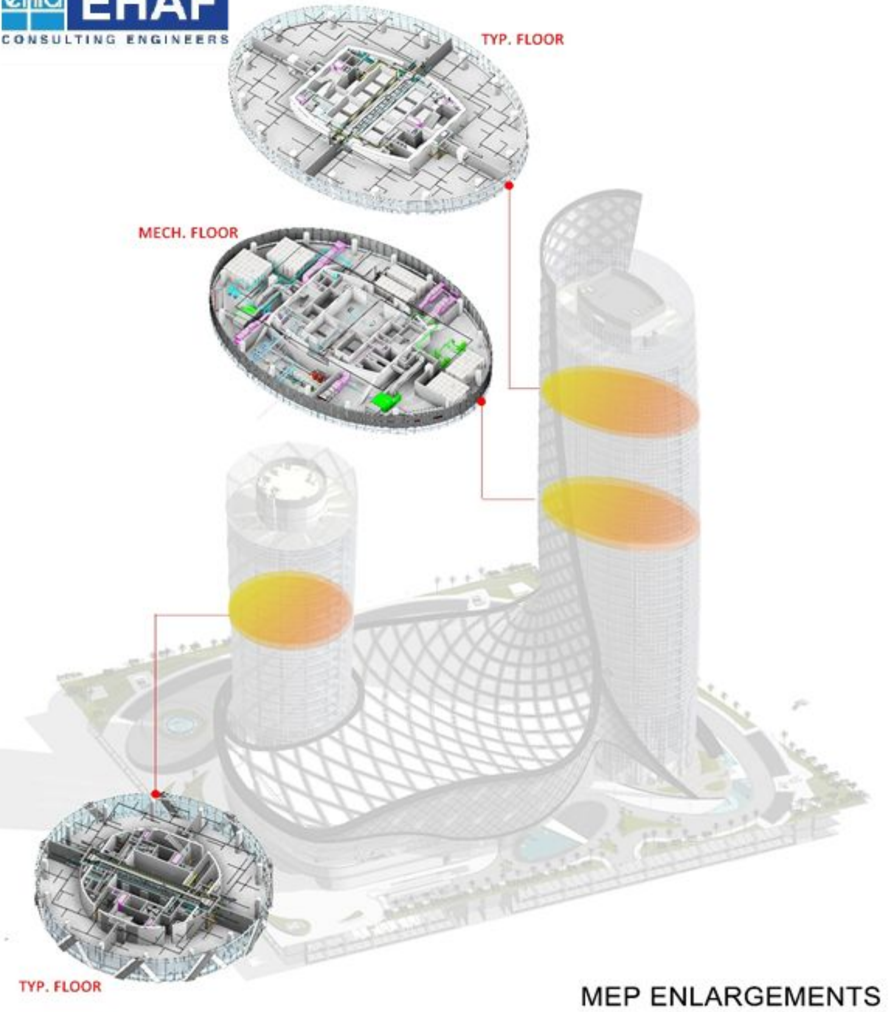
Founder of BIMarabia

1. BIM Manager
2. CAD / 3D Visualization
3. Specialist / CAD Manager / BIM Instructor / Technical Support Manager
4. Research assistant at Qatar University
5. This experience includes architectural drawings , architectural planning and detailing. Expert user in Revit, NAVISWORKS, AutoCAD and QTO.
6. I have been working in many projects using BIM technique starting from the Conceptual Design up to Construction documents, this projects include a lot of types, such as Hotels, mixed use building, Hospitals , Mosques, Villas

I am here because I love to share Knowledge.

You can find me at @BIMarabia





Project Information

SUPER HIGH RISE BUILDING WITH TWO TOWERS SITTING IN A COMMON PODIUM.

3 BASEMENT (Built up area 21,900 M^2 for each one)

GROUND FLOOR: (Built up area 7,200 M^2)

- RESTAURANTS (ASSEMBLY OCCUPANCY); RETAIL (MERCANTILE OCCUPANCY)

1ST PODIUM: (Built up area 6,850 M^2)

- RETAIL (MERCANTILE OCCUPANCY) & OFFICES (BUSINESS OCCUPANCY)

2ND TO 5TH PODIUM: (Built up area 9,300 M^2)

- OFFICES (BUSINESS OCCUPANCY) & CAR PARKING (STORAGE OCCUPANCY)

6TH PODIUM: (Built up area 6,800 M2)

- OFFICES (BUSINESS OCCUPANCY); & RESTAURANTS (ASSEMBLY OCCUPANCY

Project Information

TOWER 1: 21 FLOORS (Total Built up area 23,850 M^2)

TOWER 2: 34 FLOORS (Total Built up area 63,700 M^2)

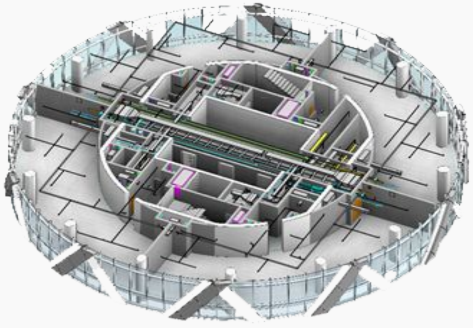
- OFFICES (BUSINESS OCCUPANCY)

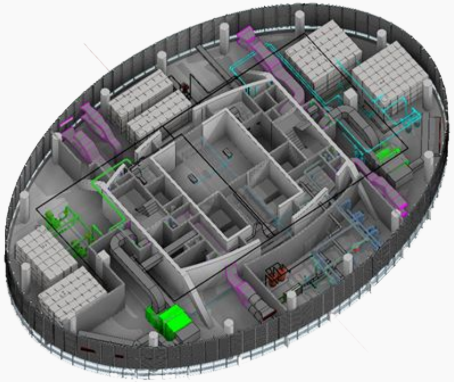
2 REFUGE FLOORS

- HOLDING AREA (BUSINESS OCCUPANCY) & OFFICES (BUSINESS OCCUPANCY)

ROOF MECHANICAL FLOOR (INDUSTRIAL SPECIAL PURPOSE TYPE)

2 MECHANICAL FLOORS (INDUSTRIAL SPECIAL PURPOSE TYPE).



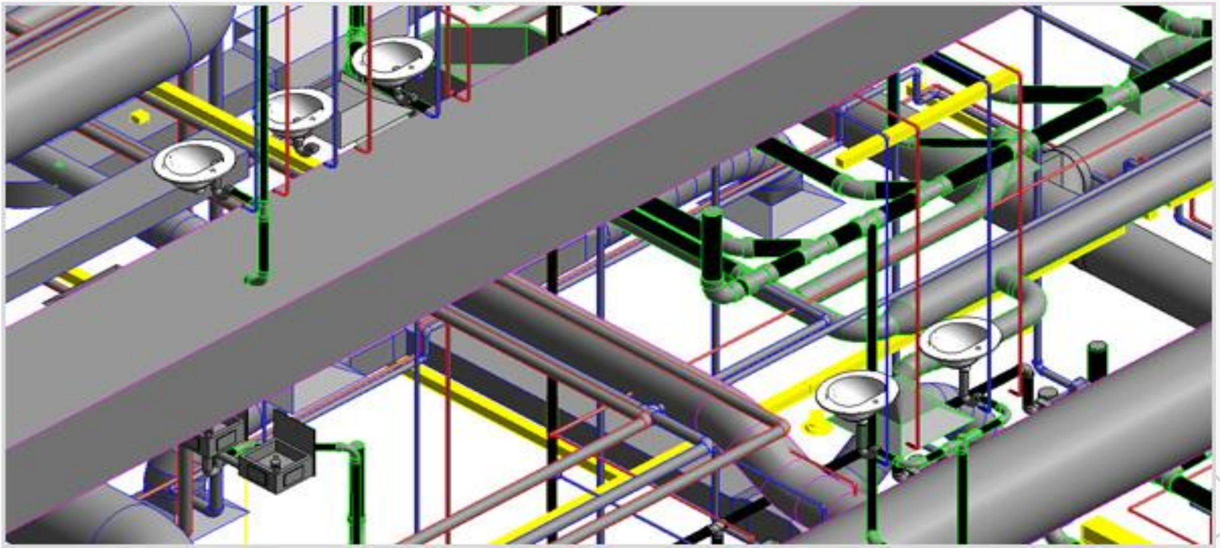


BIM Uses	Asset Management	Design Management	Resources (Time/cost)	Sustainability / Environment	Communication / Information Production
3D design coordination	✓	✓	✓	✓	✓
Asset management	✓			✓	✓
Assurance and data validation	✓	✓	✓	✓	✓
Bespoke BIM object library authoring	✓	✓			✓
Building systems analysis		✓	✓	✓	
Cost estimation and management	✓	✓	✓	✓	✓
Data classification	✓	✓	✓	✓	✓
Design (BIM) authoring	✓	✓	✓	✓	✓
Digital fabrication		✓	✓	✓	
Disaster planning	✓				✓
Drawing generation	✓	✓	✓	✓	✓
Energy analysis		✓	✓	✓	
Existing and record modelling		✓		✓	✓
Field management tracking	✓	✓	✓		✓
Lighting analysis		✓	✓	✓	
Pedestrian simulation for hazard and dwell time	✓	✓			✓
Planned maintenance	✓		✓		
Planning, sequencing and simulation		✓	✓		✓
Possessions and permit to work		✓	✓		✓
Reviews	✓	✓	✓	✓	✓
Site analysis		✓	✓	✓	
Spatial optimisation, management and tracking	✓	✓			✓
Structural analysis		✓	✓	✓	
Sustainability evaluation	✓	✓	✓	✓	
Visualisation and communication	✓	✓			✓

Benefits of BIM

Improve Design Quality

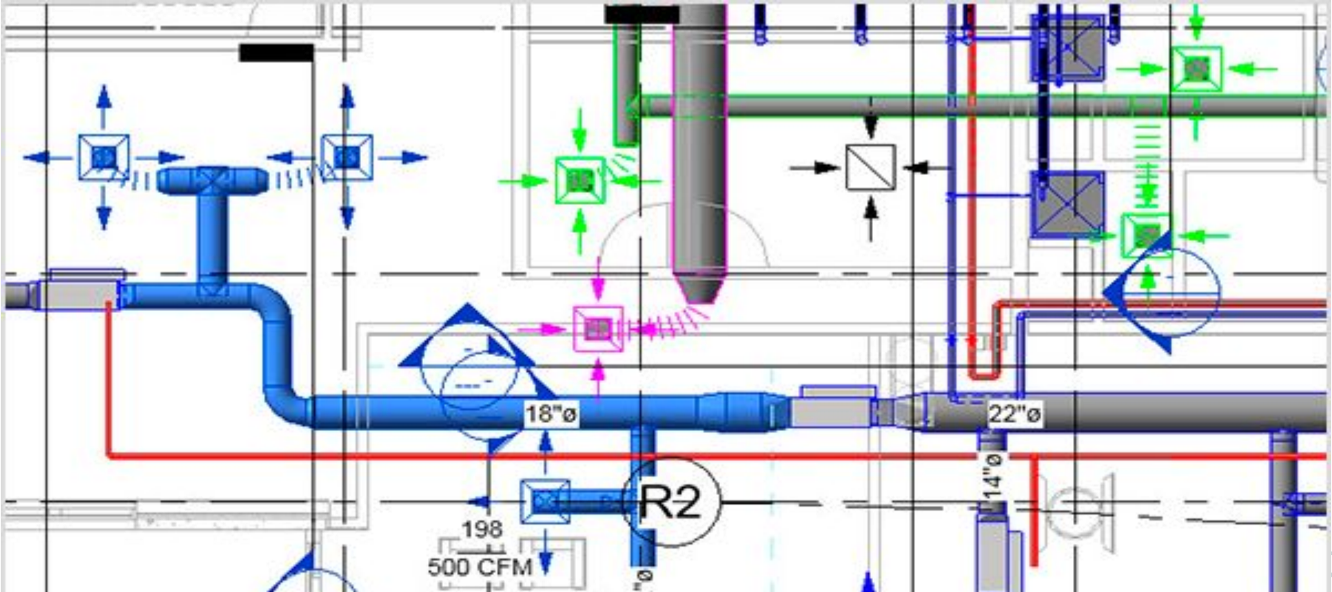
Quickly evaluate alternatives, optimize system designs, reduce and resolve clashes with intelligent modeling tools.



Benefits of BIM

Increase productivity

Using integrated modeling and detailing tools to produce coordinated designs faster and deliver projects more quickly.



Benefits of BIM

Enhance collaboration



1. Optimize your project workflows across teams with collaboration tools.
2. Collaboration is the key to success when implementing BIM

Benefits of BIM

Documentation for interdisciplinary coordination

Through information-rich models for the facility construction, BIM enables easy coordination of carrying out various interdisciplinary activities on site.

Enhanced coordination with a well-organized construction schedule empowers GC to meet the project deadlines and costs since such schedules eliminate reworks and unnecessary delays saving resources.

<M-VARIABLE AIR VOLUME (VAV) BOXES SCHEDULE>

A	B	C	D	E	F	G	H	I
			AIR FLOW RANGE			ELECTRIC DATA		
UNIT NO.	UNIT TYPE	QTY	MIN. (L/S)	MAX. (L/S)	INLET SIZE (MM)	VOLTAGE (V)	PHASE	HERTZ (HZ)
VAV-1	PRESSURE INDEPENDENT RELIEF	6	94	236	150 ø	230	1	60
VAV-2	PRESSURE INDEPENDENT RELIEF	8	237	425	200 ø	230	1	60

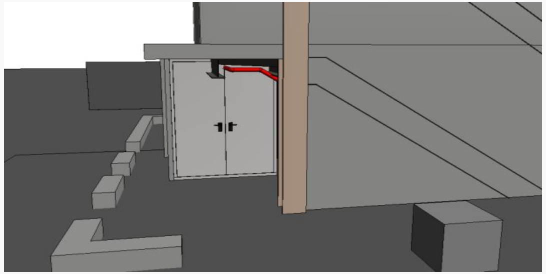
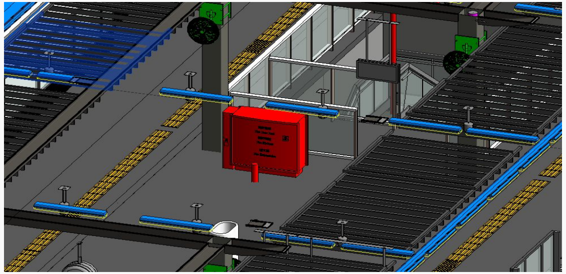
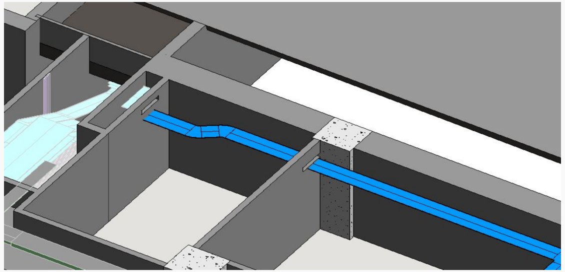
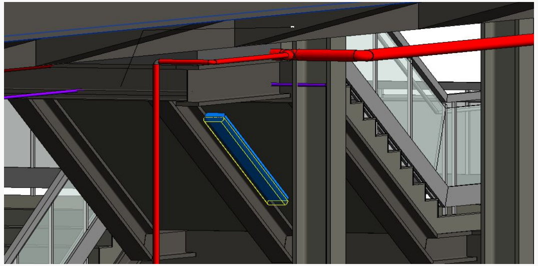
Benefits of BIM

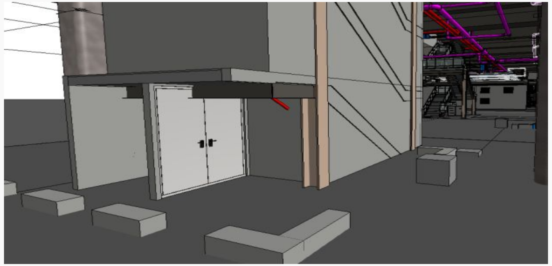
PROJECT Quantities & Cost (5D BIM SERVICES)

1. Quantity Take-off setup during the modeling process
2. Near 100% accurate Quantity Take-off from construction items in 3D model
3. Integration with MS Excel for Quantity Take-off showcasing the quantities in a flexible manner to facilitate ease of validation
4. Exact cost estimates for all construction items using rate analysis coefficients provided by client
5. Job costs report correlated construction schedule

Benefits of BIM

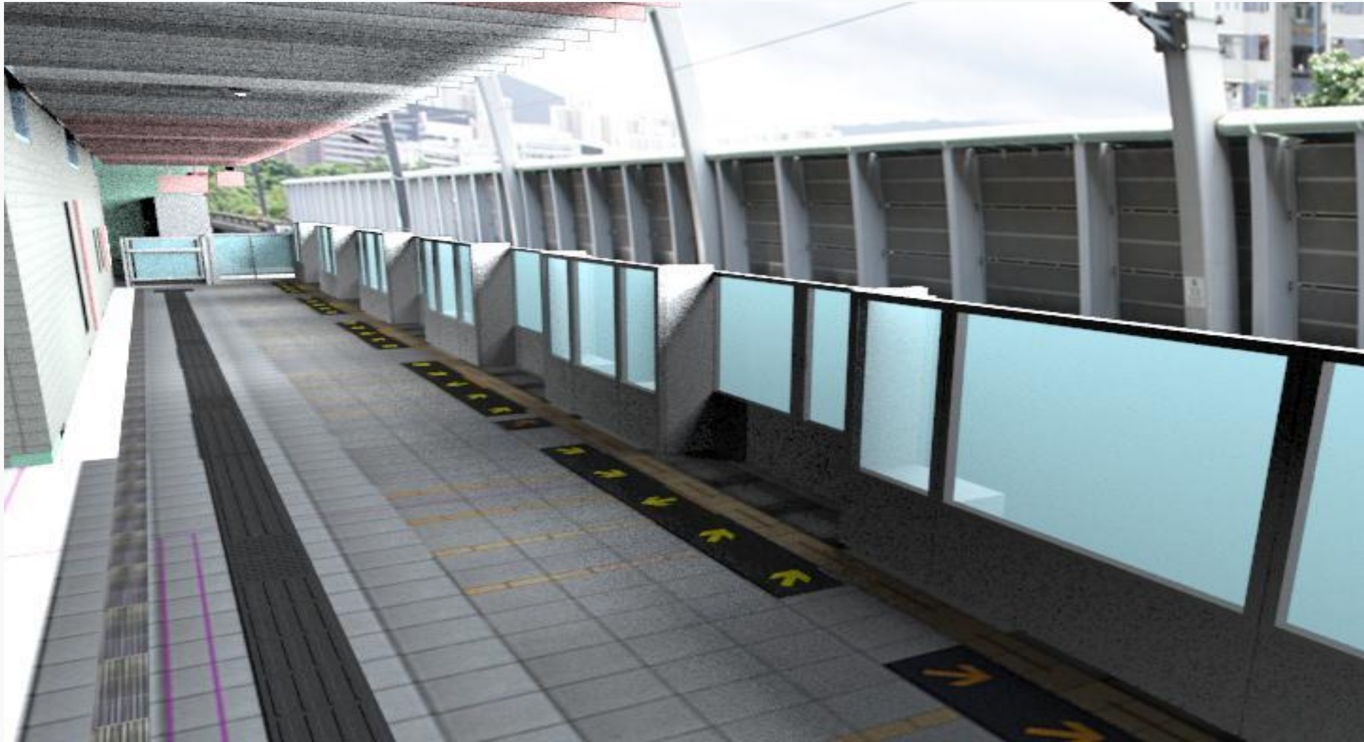
3D Clash Analysis



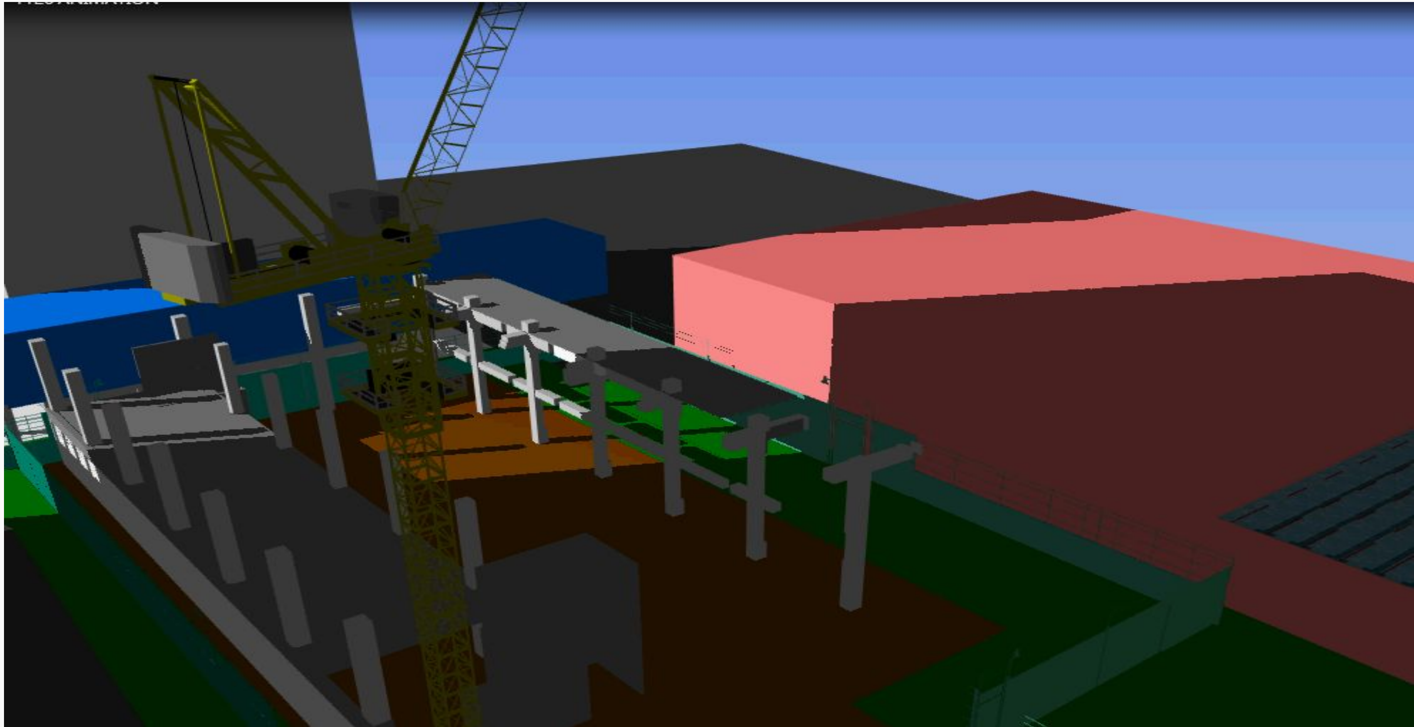
Benefits of BIM

Walkthrough(Enscape)

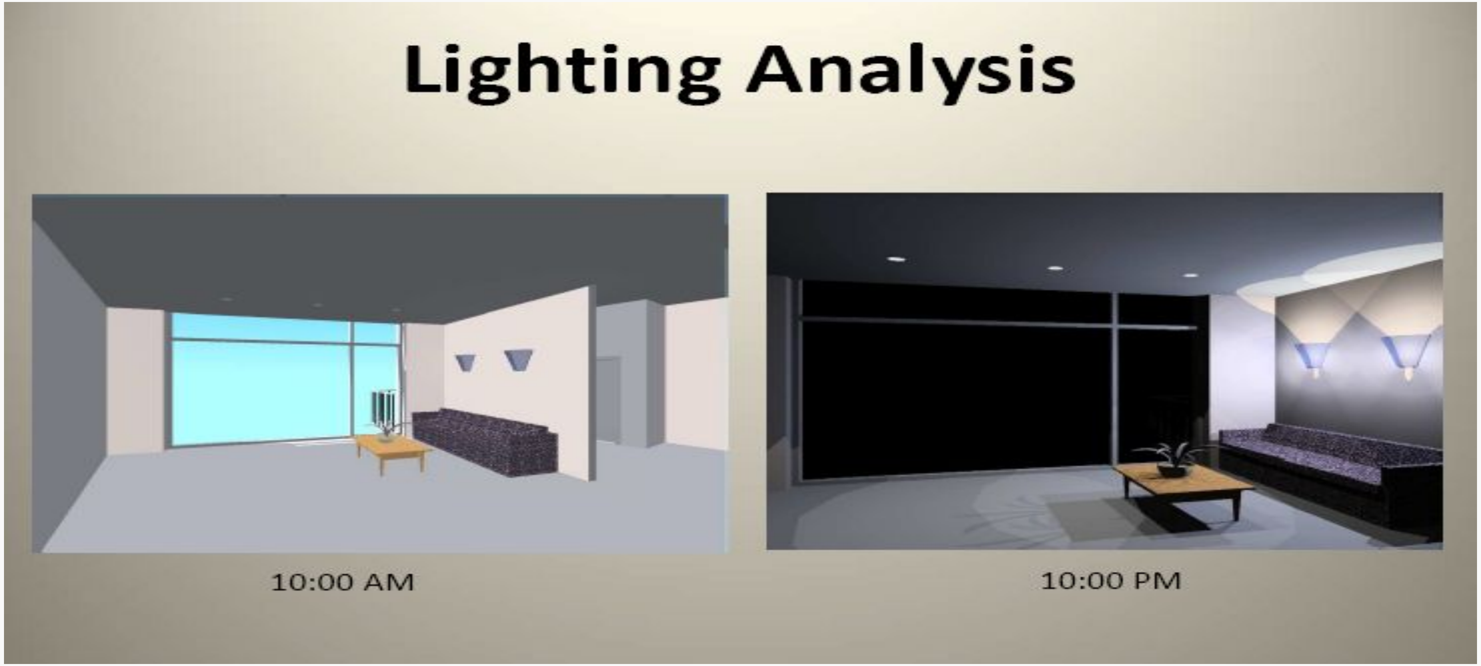


Benefits of BIM

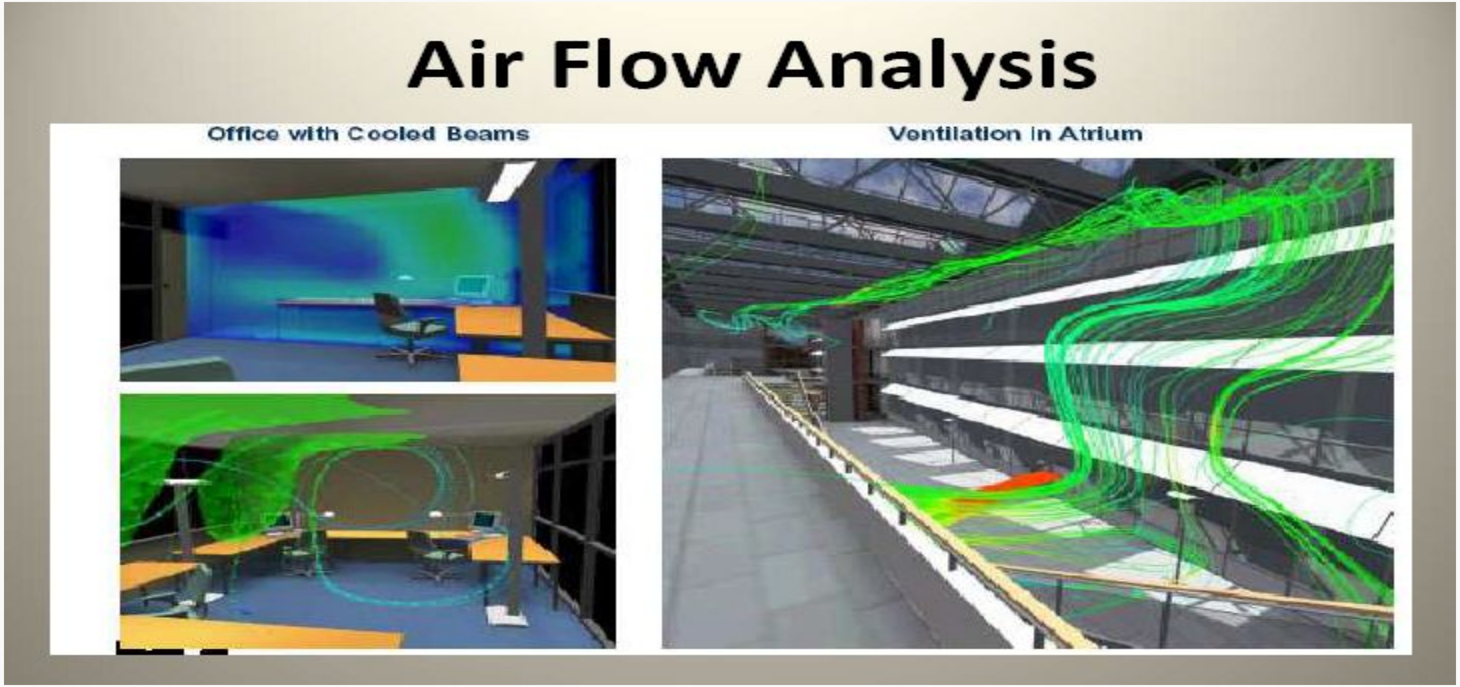
4D Virtual Construction



BIM Applications



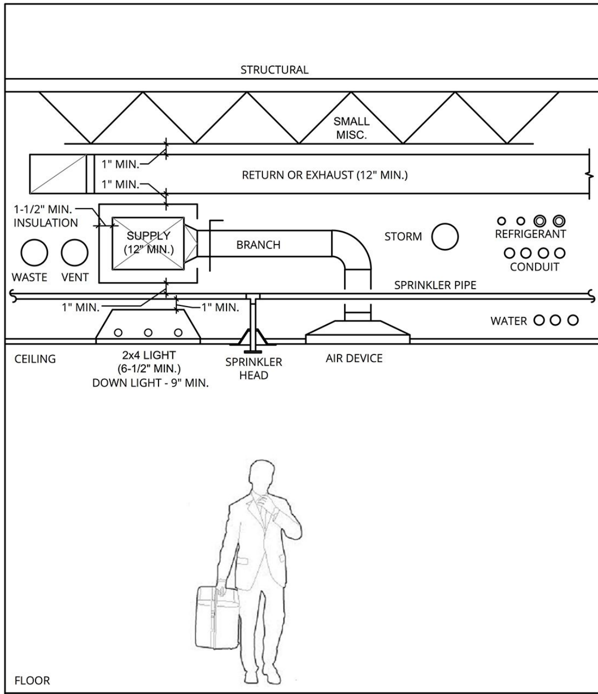
BIM Applications



Other Benefits of BIM

Spatial Coordination

Effective spatial coordination and collaboration results in a clash free design.



Other Benefits of BIM

Reduced waste

- ✓ **Exact quantity take-offs** mean that materials are not over-ordered.

- ✓ **Precise programme scheduling enables just-in-time delivery** of materials and equipment, reducing potential for damage.

- ✓ Use of BIM for automated fabrication of equipment and components enables **more efficient materials handling and waste recovery**.



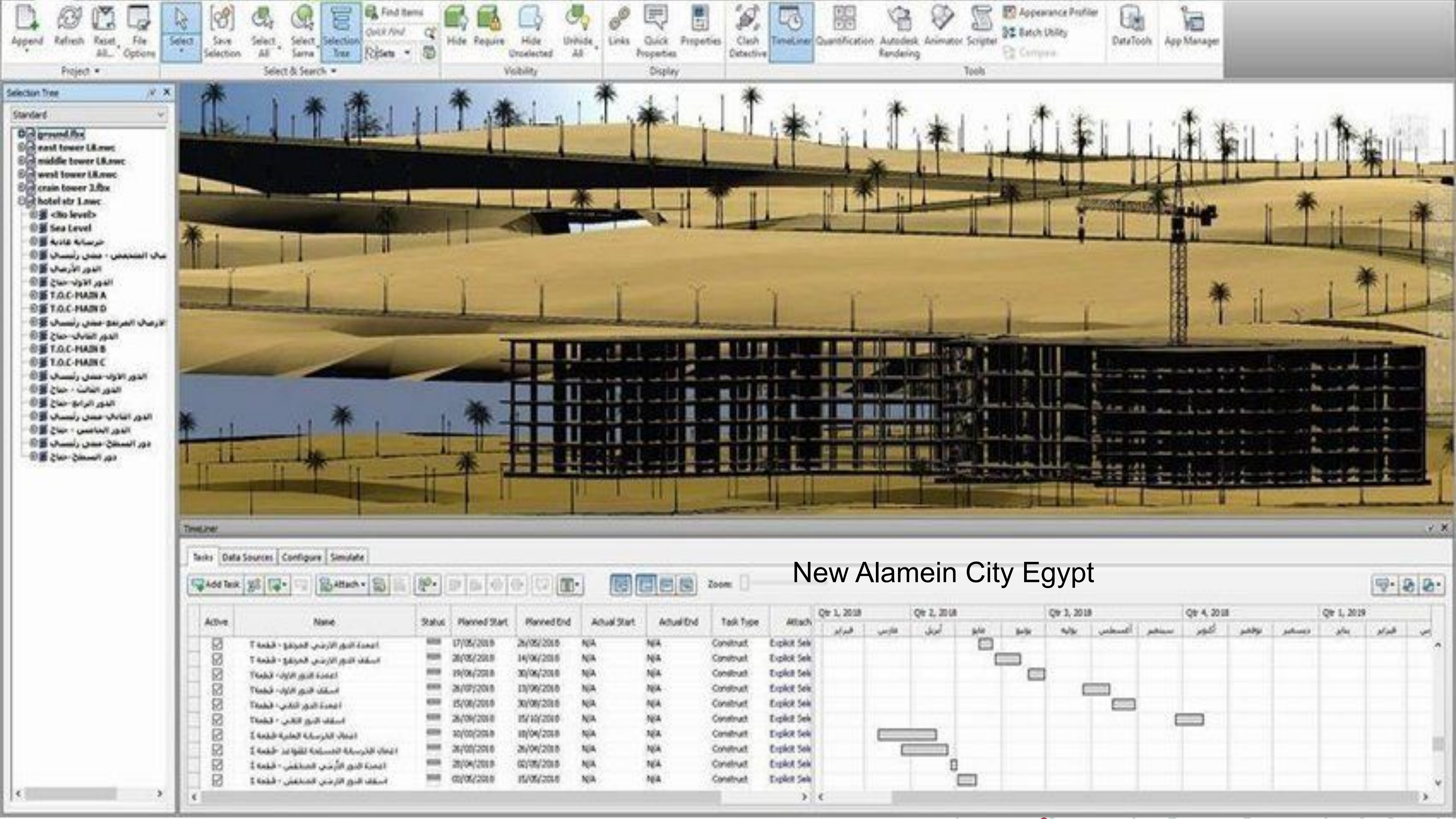
Grand Egyptian Museum

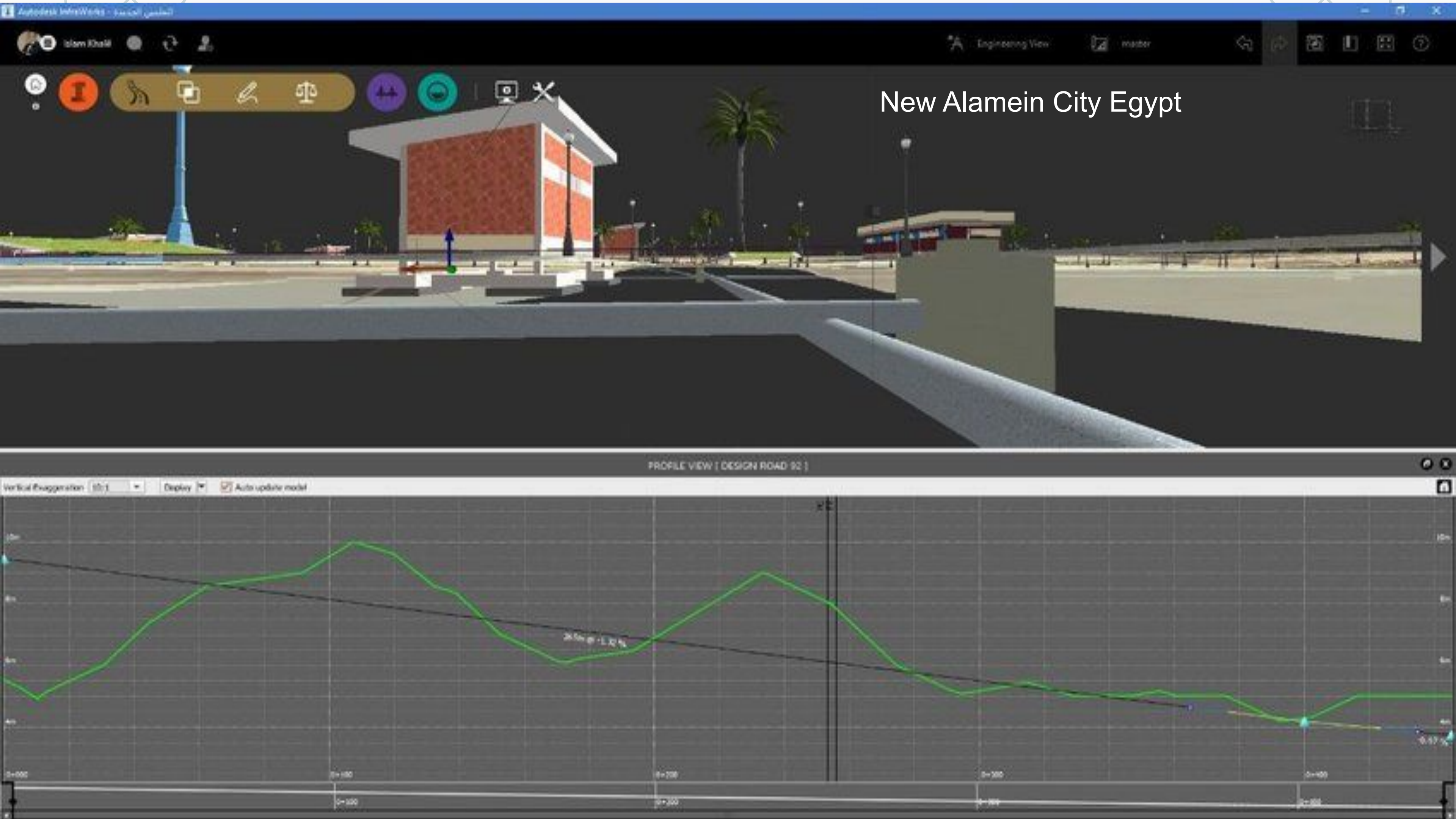




Grand Egyptian Museum

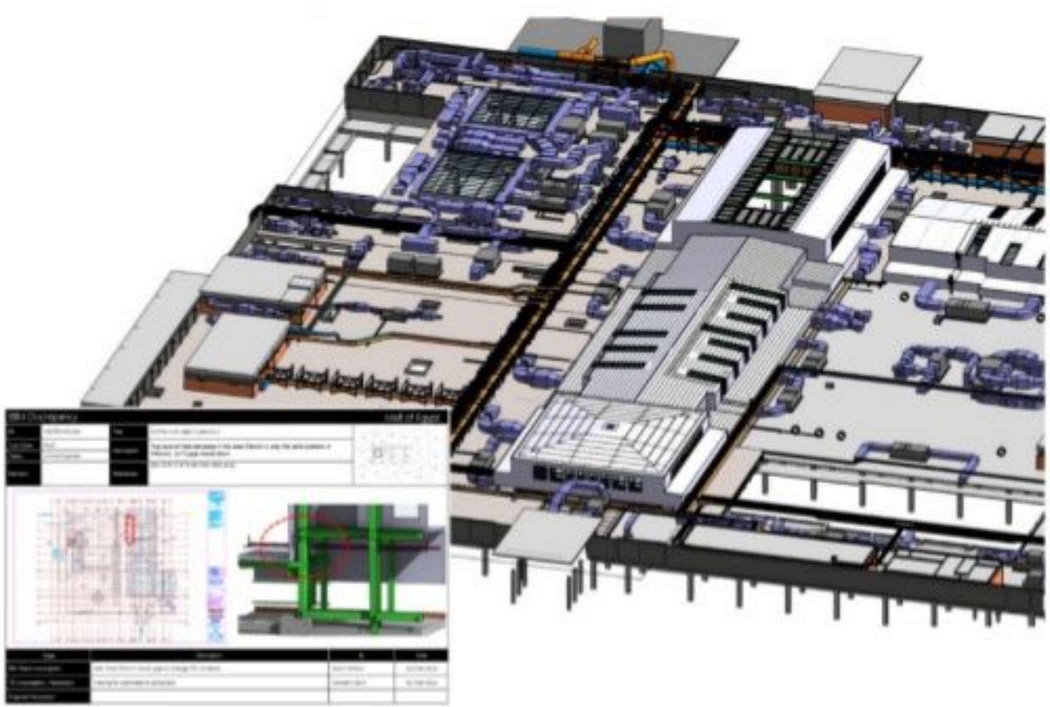

New Alamein City Egypt


New Alamein City Egypt
Append
Refresh
Select
Save Selection
Select All
Select Same
Selection Tree
Find Items
Hide
Require
Hide Unselected
Unhide All
Links
Quick Properties
Properties
Clash Detective
TimeLiner
Quantification
Autodesk Rendering
Animator
Scripter
Appearance Profiler
Batch Utility
Compare
DataTools
App Manager
Project
Select & Search
Visibility
Display
Tools
Selection Tree
Standard
TimeLiner
Tasks
Data Sources
Configure
Simulate
Add Task
Attach
Active
Name
Status
Planned Start
Planned End
Actual Start
Actual End
Task Type
Attach


New Alamein City Egypt
Autodesk InfraWorks
Engineering View
PROFILE VIEW [DESIGN ROAD 92]
Vertical Exaggeration
Display
Auto update model

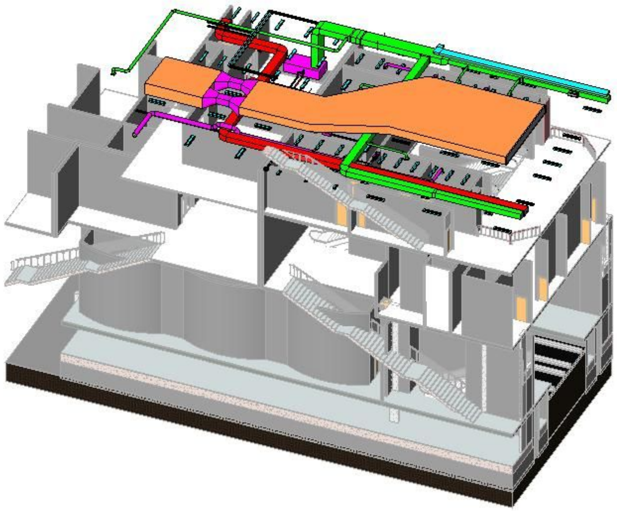
Mall of Egypt

3D & 4D coordination
Shop drawings
Quantity take off



https://my.besixgroup.com/nl-nl/Nap/NewsCenter/Paginas/Mall-Of-Egypt---Animation.aspx

In the Third subway metro line in Egypt, Vinci as the contractor requested from Kemet a proof of concept BIM model for coordination for the three disciplines and MEP coordination for Bab el Shaaria station.



Giza Systems Headquarter

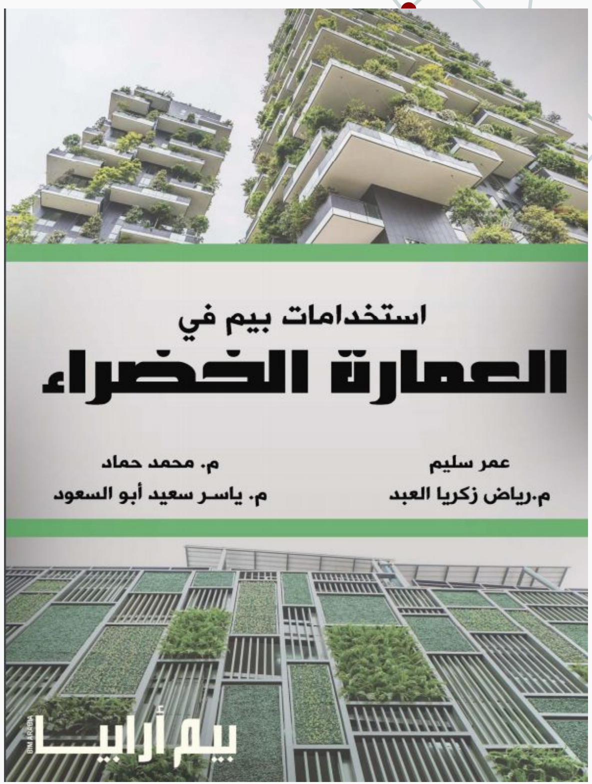


Largest Ophthalmic Hospital in Egypt



https://www.cpas-egypt.com/pdf/Omar_Slem/Book/Green_BIM.pdf
استخدامات البيم في العمارة الخضراء

https://www.youtube.com/playlist?list=PLNMim060_nUJRgifCygsgxKSnMp9b9cwc





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Do you have any questions?

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